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Art. I. — *Flemish Husbandry.*

The poor sandy heaths, which have been converted into productive farms, evince the indefatigable industry and perseverance of the Flemings. They seem to want nothing but a space to work upon; whatever be the quality or texture of the soil, in time they will make it produce something. The sand in the Campine can be compared to nothing but the sands on the sea shore, which they probably were originally. It is highly interesting to follow, step by step, the progress of improvement. Here you see a cottage and rude cow-shed erected on a spot of the most unpromising aspect. The loose white sand blown into irregular mounds is only kept together by the roots of the heath: a small spot only is levelled and surrounded by a ditch; part of this is covered with young broom, part is planted with potatoes, and perhaps a small patch of diminutive clover may show itself: but there is a heap of dung and compost forming. The urine of the cow is collected in a small tank, or perhaps in a cask sunk in the earth; and this is the nucleus from which, in a few years, a little farm will spread around.

In another spot more extensive improvements are going on; a wealthy proprietor or lessee is trenching and levelling the surface, sowing broom-seed, and planting young fire trees, which are to be cut down in a few years. In another, the process has gone on further, the firs or the broom are already cut down: a vein of loam has been found, and is dug out to be spread over the sandy surface: the cart with liquid manure is preparing the surface for the reception of

seed, or the same, diluted with water, is poured over the young blade just appearing above ground. The soil is created, and, if the cost and labor were reckoned, is paid for at a dear rate: but perseverance insures success, and there are few instances of improvements being abandoned, after they are fairly begun, unless they were undertaken on too large a scale; but then the land is soon divided into smaller portions, and improvements go on from different centres, and with more certainty.

We are here describing the labor of bringing a soil absolutely barren into a state of cultivation; but in most of the districts which have been originally waste and covered with heath, and which are now fertilized, a less ungrateful soil was found. Deep trenching and levelling at once presented a surface which required only to be manured to produce rye, flax, and potatoes. This is what we should call a moderately good sand, in which a small portion of clay and oxide of iron produces a certain degree of compactness, so as at least to retain moisture: under this kind of sand a stratum of loam is usually found at the depth of two or three feet, and, almost invariably between the sand and the loam, an indurated crust of earth cemented by carbonate of iron, which is well known to all improvers of poor sands by the name of the *iron pan;* this pan must be broken up and the loam under it mixed with the sandy surface, before any cultivation can succeed; and in this operation the Flemings are very dexterous. The instrument they use is a light wooden trenching spade, the end of the blade only being shod with iron; the handle of this spade is about two feet long, the blade from twelve to fifteen inches. A light pick-axe is used to break the pan where it appears. A ditch is dug with the trenching spade, two or three feet wide, and as deep as the trenching is intended, generally two feet, or at least twenty inches; this ditch is filled with the earth which is taken in long thin slices from the edge of the solid side of the ditch. Every slice is distributed carefully, so as to mix the whole, and keep the best soil at top, and likewise to fill up hollows and level eminences. If there is more than can conveniently be spread level, little heaps are made of the superfluous earth, which are afterwards carried, in an ingenious manner, to fill up more distant hollows, by means of horses and an instrument which is called a *mollebart.* Wherever there is a pan, it is carefully broken, and the loam, which is always found under it, is mixed with the sand

dug out. Draining is seldom required here, except that which is effected by making deep ditches to carry off the superfluous rain-water, which, in a country almost as level as a lake, is no great difficulty. A canal near at hand is, however, an essential condition of extensive improvement, to bring manure, and carry off the produce of the land, as well as to be an outlet for the water in the ditches. When Count Chaptal traversed a barren part of Flanders, accompanying the Emperor Napoleon, the latter expressed his surprise, at a meeting of the Council of the Department, that so great a tract of land remained uncultivated in so industrious a nation. The answer was, 'If your majesty will order a canal to be made through this district, we pledge ourselves that in five years it will be all converted into fertile fields.' The canal was ordered to be made without delay, and in less time than they promised not an unproductive spot remained.—(See Chaptal, 'Chimie Appliquee à l'Agriculture,' vol. i. p. 347.)—One great cause of the agricultural prosperity of Flanders is the ready transportation of manure and produce by canals.—But to return to the newly trenched land. If there is no manure at hand, the only thing that can be sown on poor sand, at first, is broom: this grows in the most barren soils; in three years it is fit to cut, and produces some return in fagots for the bakers and brickmakers. The leaves which have fallen have somewhat enriched the soil, and the fibres of the roots have given a certain degree of compactness. It may now be ploughed and sown with buckwheat, or even with rye without manure. By the time this is reaped some manure may have been collected, and a regular course of cropping may begin. As soon as clover and potatoes enable the farmer to keep cows and make manure, the improvement goes on rapidly; in a few years the soil undergoes a complete change: it becomes mellow and retentive of moisture, and enriched by the vegetable matter afforded by the decomposition of the roots of clover and other plants. It is surprising that so few sheep should be kept on these new farms. Sheep folded would do good by their tread, as well as their manure, but the management and feeding of sheep is a part of husbandry in which the Flemings, with very few exceptions, are decidedly as much behind our light land farmers, as they are before us in the feeding of their cows, and preparation and economy of manure.

If about twenty small cart-loads of dung can be brought on

each acre of the newly trenched ground, the progress is much more rapid. Potatoes are then the first crop, and generally give a good return. The same quantity of dung is required for the next crop, which is rye, in which clover is sown in the succeeding spring; and a small portion is sown with carrots, of which they have a white sort, which is very productive and large in good ground, and which, even in this poor soil, gives a tolerable supply of food to the cows in winter. Should the clover fail, which sometimes happens, the ground is ploughed in spring and sown with oats and clover again. But if the clover comes up well amongst the rye stubble, it is cut twice, after having been dressed with Dutch ashes early in spring. It is mostly consumed in the green state. The clover-ley is manured with ten cartloads of dung to the acre, and rye sown again, but not clover. After the rye comes buckwheat without any manure; then potatoes again, manured as at first, and the same rotation of crops follows. It is found that the poor land gradually improves at each rotation from the quantity of dung used: and, as this is essential, it will be easily seen that without water carriage the improvement could not go on: for the necessary quantity of dung could never be brought to the ground by land carriage through the deep sandy roads, which are mere tracks.

For want of sufficient manure, broom-seed is sometimes sown with the rye after the clover. The rye is heaped and the broom continues in the ground two years longer. It is then cut for fuel. The green tops are sometimes used for litter for the cows, and thus converted into manure. It is also occasionally ploughed in, when young and green, to enrich the land. Oats, clover, and broom are occasionally sown together. The oats are reaped the first year; the clover and young broom tops the next, and the broom cut in the third. This is a curious practice, and its advantage appears rather problematical. All these various methods of bringing poor sands into cultivation show that no device is omitted, which ingenuity can suggest, to supply the want of manure.

After the land has been gradually brought into a good state, and is cultivated in a regular manner, there appears much less difference between the soils which have been originally good, and those which have been made so by labor and industry. At least the crops in both appear more nearly alike at harvest, than is the case in soils of different qualities in other countries. This is a great proof of

the excellency of the Flemish system; for it shows that the land is in a constant state of improvement, and that the deficiency of the soil is compensated by greater attention to tillage and manuring; especially the latter. The maxim of the Flemish farmer is, that 'without manure there is no corn — without cattle there is no manure — and without green crops and roots cattle cannot be kept.' Every farmer calculates how much manure he requires for his land every year. If it can be bought at a reasonable rate, he never grudges the outlay. If it cannot be purchased, it must be made on the farm. A portion of land must be devoted to feed stock, which will make sufficient manure for the remainder: for he thinks it better to keep half the farm only in productive crops well manured, than double the amount of acres sown on badly prepared land. Hence also he does not reckon what the value would be of the food given to the cattle, if sold in the market, but how much labor it costs him to raise it, and what will be the increase of his crops from the manure collected. The land is never allowed to be idle, so long as the season will permit anything to grow. If it is not stirred by the plough and harrows to clear it of weeds, some useful crop or other is growing in it. Hence the practice of sowing different seeds amongst growing crops, such as clover and carrots amongst corn or flax; and those which grow rapidly between the reaping of one crop and the sowing of another, such as spurrey or turnips, immediately after the rye is cut, to be taken off before wheat sowing. These crops seem sometimes scarcely worth the labor of ploughing and sowing; but the ploughing is useful to the next crop, so that the seed and sowing are the only expense; and while a useful crop is growing, weeds are kept down. These are the general principles of Flemish husbandry.

The collection and application of manure is the great secret of Flemish husbandry. Upon their poor light soils nothing could be raised without an abundance of manure. It is consequently, an object of minute attention to the Flemish farmer to collect as much as possible, and to apply it in the most advantageous manner. For this purpose the dung of the different domestic animals is generally kept separate, especially that of cows, from that of horses; the former being thought better for dry sandy soils, the latter for colder loams and clays. They look upon pigs' dung as being cold and inferior, adopting in this respect the opinions of the ancients. We think

differently; but this may be easily accounted for. The Flemish store pigs are fed in the most miserable manner, and are merely kept alive on weeds taken from the fields, or by very scanty grazing in rough pastures. We need not be surprised, therefore, that their dung is poor. The cows are better fed, and their dung is consequently richer. Cow dung is thought to last longer in the soil, and its effects on the second crop are more conspicuous that that of horse dung, which stimulates more and is sooner effete. Sheep, which are so important to the light-land farmer in England and Scotland, for their manure, are not kept in sufficient quantities in Flanders, nor well enough fed to do much good to the land. They are commonly housed every night, and driven about in the day to gain a scanty subsistence along the roads and sides of fields. The manure collected in the sheep-fold is carried out on the land, and its effects are duly appreciated. A flock is occasionally folded on a clover ley before it is ploughed up, but never on turnips, which are always given to the cows. This is owing to the small extent of the farms, which do not allow of a considerable flock of sheep being kept by any one farmer; but a flock is made up of different lots of sheep belonging to several proprietors, and put under the care of a common shepherd, or it is sometimes the property of the shepherd, who occupies no land, but lets out the sheep to fold, or sell the manure.

But the great auxiliary of the Flemish farmer is the URINE TANK, wherein are collected not only the urine of cows and horses, but also the drainings of the dunghills. The urine tanks are generally sunk below the level of the ground, and have the sides built of brick, and the bottom paved: they are of various dimensions, according to the number of cows and horses on the farm. Attached to the distilleries, where many beast are constantly kept to consume the refuse wash, there are very large urine tanks of an oblong shape, divided by partitions into different chambers, so that the liquor may be of the proper age when it is used, which some farmers think ought to be six months. Each chamber is about eight feet square and six or eight feet deep; these are sometimes vaulted over, but frequently only covered with loose bords. As urine and the emptyings of privies are sold wholesale and retail, there are many large tanks near the rivers and canals, where the dealers have sometimes great quantities in store. Some of these consist of many

square pits like tan pits, bricked round, and the inside covered with a cement, which prevents loss by filtration. There is generally in a corner of each pit a graduated scale, by which the number of barrels, or tons of liquid in the tank may be ascertained by observing the height of the surface. These tanks are gradually filled by boatloads brought from the large towns; and when the season arrives for sowing, in spring and autumn, the farmers come with their carts and tubs, and purchase as much as they may want. The price varies from three to five francs (two shillings and sixpence to four shillings) per hogshead according to the quality. In a small farm of thirty to forty acres the tank is generally about twenty feet long, twelve wide, and six deep, with a partition in the middle, and arched over, leaving an opening for the pump, and another sufficient to allow a man to go in to empty out the earthy deposit which falls to the bottom. A trapdoor shuts over this aperture to prevent accidents. Sometimes the tank is round, like a well, with a domed top, and so deep in the ground, that it has a foot or two of earth over it. The situation of the tank is either in the farmyard near the entrance of the cowhouse, or immediately behind it; sometimes it is like a cellar under the building; but this is apt to cause a disagreeable smell in the cowhouse. We here describe those which we consider the most convenient: the form and capacity of the tanks vary according to the means and notions of the proprietors of the farms: but a tank of some kind or other is considered as indispensible an appendage to a farm as a barn or cowhouse. The farmer would as soon think of dispensing with his plough as with his tank: and no expense or trouble is spared to keep this well supplied. The numerous towns and villages in Flanders afford great help in the way of manure. The thrifty housewife and her active substitute the maid, know the value of what in our households is thrown away or wasted, and lost. A small tank, or a tub sunk in the ground in some corner contains all the liquid which can in any way be useful; soapsuds, washings of dishes, &c., are carefully kept in this reservoir, until once a week, the farmer or contractor calls with his tub on a cart, and this, mixed with the contents of privies, which are frequently emptied, he keeps in large cisterns for use or sale.

But this supply is not always adequate to the wants of the farmer, and then he has recourse to rape cakes dissolved in water, or in the tank, which is expensive, and can only be profitable where flax

bears a good price, this being the crop for which rape cakes are chiefly used as manure. Every means, therefore, of augmenting the supply of urine is had recourse to, and the most efficacious is the establishment of distilleries. These answer the double purpose of consuming produce and increasing manure by the number of beasts which are fattened on the refuse wash. It is calculated that every beast produces at the rate of ten or twelve tons of dung and twentysix hogsheads of urine in the year. A moderate distillery has fifty or sixty head of cattle constantly stalled. Here then is a supply of manure for several hundred acres of land every year. Formerly there were a great many distilleries in Flanders, but the duty on spirits and the interference of the government has much reduced their number; so that the farmers complain of the loss of this manure, and the consequent deficiency of their crops.

The dung of pigeons and domestic fowls, where it can be collected in any quantity, is highly valued. The mode of using it is either in a dry and powdered state, to which it is reduced by thrashing with a flail, when it is sown with the seeds of leguminous plants, or else dissolved in the urine tank, and thus spread over the land. This manure is chiefly reserved for kitchen gardens; it promotes the growth of vegetables and produces no weeds.

The solid dung, from which the liquid has been allowed to run off into the tank, must be carefully attended to, that it may not be too dry and become *foxy*, as it is called, or burn. It is therefore, mixed up with earth and any useless vegetable matter which can be collected into a heap or compost; and when it appears too dry some of the liquid from the tank is poured over it, to excite fermentation and accelerate decomposition, or it is merely watered, when there is sufficient strength in it to produce heat.

In order to increase as much as possible the quantity of solid manure, there is in most farms a place for the general reception of every kind of vegetable matter which can be collected; this is a shallow excavation, of a square or oblong form, of which the bottom has a gentle slope towards one end. It is generally lined on three sides with a wall of brick to keep the earth from falling in, and this wall sometimes rises a foot or more above the level of the ground. In this pit are collected parings of grass sods from the sides of roads and ditches, weeds taken out of the fields or canals, and every kind of refuse from the gardens: all this is occasionally

moistened with the washings of the stables, or any other rich liquid; a small portion of dung and urine are added, if necessary, and when it has been accumulating for some time, it is taken out; a portion of lime is added, and the whole is well mixed together; thus it forms the beginning of a heap, which rises gradually, and in due time gives a very good supply of rich vegetable mould, or compost well adapted to every purpose to which manure is applied. The place where this accumulation is made is called in French a *croupissoir*, and in Flemish or Dutch *smoor hoop*, which may be translated *smothering heap*.

Besides the manure which is collected on the farm, the *vidanges*, or emptyings of privies obtained from the towns, and the sweepings of streets, a large quantity of peat ashes imported from Holland are used, principally as a dressing for clover. These are the ashes of the common fuel in use in Holland, and are sold in Flanders by the bushel, as the Newbury ashes are in Berkshire.

Wood ashes, after the greater part of the alkali has been extracted for bleaching, are still considered as of great use to the land. Soapers' ashes are in great request for cold heavy soils; and sugar scum from the refiners, if it could be procured in sufficient quantity would be an excellent manure for every kind of soil. Where it can be obtained, they usually throw it into the urine tank; and the mixture is then considered as almost equal to the vidanges, which are looked upon as the *ne plus ultra* of manures. Soot is used as a top-dressing for wheat, or clover in spring, as it is with us. It is thought to destroy insects and hasten vegetation.

The weeds, which grow abundantly in all ponds, canals and ditches in this level country, where the current is never rapid, are mown in spring, and used in the green state as manure for potatoes. They are laid in the furrows, and the sets placed over them; the furrow is then filled up by the plough, and the weeds decomposing very rapidly, greatly assist the growth of the potato plants: so rapidly do these weeds ferment, that much of their value is dissipated, if they are left only forty-eight hours in heaps before they are put into the earth.

The manner in which manure is applied to the land for different crops will be explained as these are separately treated of: but the general principle, which pervades the whole system of manuring, is worthy of attention. Two great objects are always kept

in view. The first is to obtain the most abundant crop of whatever is sown: the next is to impregnate the soil with an increasing power of production, if possible, or at least to maintain that which has been obtained. In consequence of this, almost every crop has a certain portion of manure applied to it, which varies according to the nature of the crop to be raised, and that which has preceded: experience having taught that some crops exhaust the soils more than others.

But it is not the mere surface that they desire to manure. They well know that the deeper the soil is fertilized, the greater will be the profit and the less the labor. They are not satisfied with enriching the land to receive the seed, they furnish food for the growing plant in different stages of its growth, if they think it necessary. There is in consequence no fluctuation in the growth, no check at a time when the plants require support. The seed is made to vegetate rapidly by being in contact with the rich jnices of the manure; and hence a much smaller proportion of seed is required. The young blade is invigorated by a judicious watering, and is soon out of danger of the attacks of insects.—*Library of Useful Knowledge, Farmer's Series.*

Art. II.—*Professor Johnson's Lectures on Botany.*

After recapitulating some of the topics of the preceding lectures upon the development of vegetation, the learned professor commenced with remarks upon the grasses. These grow in all parts of the world promiscuously, and without cultivation, and being the principal nutriment of man, their cultivation follows him in society and his migrations. The Mogul and Caucasian races of men subsist upon wheat and barley; while rice and millet form the food of the Negro and Malay, and the tribes of ancient Mexico were bounded by the cultivation of maize. The cultivation of the earth preceded the improvement of the intellect, and was the herald of civilization. It is remarkable that we have no direct criterion of the origin of many of those grasses met with everywhere in cultivation, as none of them are to any extent found wild. Some travellers have thought that barley was indigenous to Tartary, rye to Creta, and wheat to Asia; but these

might have been diffused from some cultivated some years previously. Corn is not only the support of man, but the grasses are the subsistence of the animals which form his nutriment. The nutritive quality of grasses, is principally owing to the sugar which they contain, and of which some English grasses contain large quantities, but the sugar cane is the only grass that is exclusively cultivated for obtaining this article for commerce. The grasses are applied to a vast variety of important mechanical purposes; they are found in every part of the world, from the Poles to the Equator; on the land, as well as floating on the water, and are the universal food of animals. It has been estimated that the daily consumption of corn in England and Ireland is 1,238,096 bushels of wheat and barley; besides annually, 100,000 bags of rice, and 450,000,000 lbs. of sugar. Besides these may be estimated as the immediate products of the grasses, which consumed by animals form the food of man, a quantity of almost inconceivable amount. In London alone, is annually consumed 155,000,000 lbs. of butcher's meat. Of cheese, another production of grass, 11,500 tons are annually introduced into London, from Cheshire, about 20,000 tons from Warwickshire, besides that from several other countries. Of butter, the annual consumption is almost 50,000,000 lbs. the produce of 300,000 cows; and in London, between 9 and 10,000 cows are kept for the supply of milk to the inhabitants, which produce an annual supply of about 30,000 millions of quarts. All these are the immediate products of the grasses.

Most culinary vegetables belong to the cruciform, umbellate, or papilionaceous varieties of plants. — The first is so named from four petals forming the flower, being disposed in the form of a cross, as in the wallflower. It may be remarked, that not a single species included in this group is poisonous, but that the whole, if not absolutely employed as food, are not deleterious. The cabbage, cauliflower, brocoli, sea kale, turnip, mustard, and almost all culinary vegetables, but spinach, belong to it. Another extensive group, is the umbellifera, so called from the arrangement in umbels, the main flower stalk diverging into a number of spokes like an umbrella. Although this class contains many used as condiment or food, many others which are very poisonous, are associated with them, as the hemlock. We know too little of the natural affinities of plants, to enable us to distinguish the poisonous, from those that are not so;

as the sweet chervil of the garden, which is often mistaken for hemlock, or the common celery, mistaken for the same. Accidents from this kind are not uncommon, and it was from eating drop-wort that grows upon the banks of the Thames and other rivers, instead of celery, that several convicts died at Woolwich, three or four years ago. The papilionaceous, include many used for food, as pulse, beans, peas, tares, saintfoin, and others, and so named from the fancied resemblance of the flower to a butterfly. The fruit forms a pod, called a legume, and the plants are therefore called leguminous; of many of them, the seeds are food for man, and the stem and leaves of some, are food for cattle; but the seeds of the alburnum, and many others are poisonous. Although we are not yet sufficiently acquainted with the characters which may enable us to distinguish the qualities of all, yet, De Candolle has furnished us with a sign by which we may in some measure distinguish betwixt those which are poisonous or not. It is by observing how the leaves spring from the seed, which are found to be very dissimilar. Some throw their lobes above the ground, and are of a green color, as in the laburnum. In most of this kind of plants cultivated for the purposes of food, the leaves remain beneath the soil; but although this cannot be taken as an absolute criterion of a wholesome plant, from the circumstance that some of them throw up their leaves, it is a well recognized fact that no poisonous plant keeps its leaves beneath the surface. The potato is a member of a poisonous and narcotic order, being included in the same as the hemlock, nightshade, and mandrake. The potato being wholesome, seems to mark another feature, that some parts alone are poisonous whilst others are not, and that this poisonous principle may reside in different parts of the plant. In the poppy, the seeds are not poisonous, but on the contrary, highly nutritious; in some parts of the continent being a food both for man and animals. It is used extensively for the adulteration of oil; a large portion of the olive oil imported from France being almost exclusively composed of it. The fleshy part of the plum and other fruits is good for food, and nutritious, whilst the kernels and leaves are highly poisonous, containing hydrocyanic acid. The tubers of potatoes when roasted, are good, but the stem, leaves, and other parts of the plant are deleterious. The tubers, when on the ground and exposed to the surface of light, become green, and taste badly. In its history the potato presents the same

hemisphere as various kinds of corn. It was not known in the Eastern hemisphere, or the Old World, until after the discovery of America, where it was found cultivated in Peru, from whence it was introduced by Sir Walter Raleigh into Virginia, in 1586. It is supposed to be indigenous to the Andes and Peru, but it is not found there in a wild state by travellers. In many parts of Asia Minor, the soil is covered with the citron, cherry, pear, and other varieties of fruits. Although we are ignorant of their native spot, they may have formerly been introduced into these parts and cultivated, and point out ancient civilization. Many ages ago, science and civilization were confined to certain parts; and from countries in proximity to the Euxine Sea, the gulph of Persia, and other parts, was Europe indebted for its supply of almost all descriptions of fruit and vegetables. In the time of Cato, the Romans were neither acquainted with peaches or mulberries; in that of first Tarquin, the olive was not known to exist in Italy, Spain, or Africa; in that of Appius Claudius, olive oil was rare; but now all the neighboring countries derive their supply from these parts. In the time of Pliny, it was introduced into France and Spain. The vine, all the varieties of which originally sprung from one species, modified by climate and cultivation, is interesting in its genealogy. It was not known originally in Europe, but followed man in his migrations. It is found wild in the Caspian, though we have no reason to suppose it originally to have been so. — From Greece it was introduced to Sicily; by the Phoceans it was carried into the south of France; by the Romans to the banks of the Rhine; from whence it was extended to the various islands of the Mediterranean. Several of the fruits so important in the tropical regions, as the banana, the date, cocoa-nut, &c. have the history of their origin involved in the same obscurity as the European plants just named.

The solid matter of which vegetable substances are principally supplied from the earth, is carbon or charcoal, which principally comes through water. In plants growing in the arid sands of tropical regions, which are scarcely susceptible of supporting vegetation, we find very little carbonaceous matters, a small proportion of the solid principle being combined with a large quantity of aqueous juices. There are certain other principles which must be furnished from the soil; and if it be destitute of these, the plant cannot be fostered, and hence the difficulty of cultivation, from not knowing

the chemical nature of the earth and soil. Plants growing in the neighborhood of the ocean, contain soda, which had its origin in the spray of the sea to which they are exposed; the common eryngo will grow in such situations, but not in a garden, from the want of sea salt. It has, however, been kept alive under such circumstances, by watering with water in which sea salt had been dissolved. The matter of flint, or silica, is contained in considerable quantities in many plants, as in the common cane; if two pieces be rubbed together they will produce a light from this circumstance. When we examine the cuticle, we find a considerable quantity of minute, flinty matter, which produces the light. Mechanics are in the habit of using a vegetable production called Dutch rush, but which is not common in this country; it is used by cabinet makers and workers of brass, for polishing, where it acts like a fine file, caused by an innumerable number of pieces of rock crystal. Two causes may be assigned for the presence of this: — it is either imbibed by the plant in a fluid state, or produced by a certain specific, vital action in the plant. As we do not know any instance of the latter, the former may be assigned as the probable cause. Such plants will not grow without silica, and in situations where plants do not flourish, it is owing to the circumstance, that the soil does not contain its proper quantity of proper earth.

Lime is a well known substance, existing in vegetables in various proportions; in some being contained in a considerable quantity. It is always in combination with an acid, either the carbonic or the phosphoric, analagous to chalk or animal bone. One probable cause of the fertility of lime, when applied as manure to soil, is in the carbonic acid which it absorbs from the atmosphere, presenting it in a form by which it is readily decomposed. The soils which contain lime are most favorable for the growth of corn; and wheat never flourishes more than where it abounds. It is contained in grain in such quantities, that it is computed that every person who consumes 1 lb. of bread daily, will, in the course of one year take into his system 3 lbs. 6 ozs. 3 drachms and 44 grains of phosphate of lime. This circumstance is the reason why it is of superior quality over other grain, as it forms the principal part of human bodies. It is found in milk, where nature seems to indicate that it is contained for the nourishment of the young animal, from the remarkable fact that when they are able to take other food, the milk loses its propor-

tion of this substance. Although phosphate of lime is contained in considerable quantities in the adult secretions, it is not known in those of the young, being all taken up for the purpose of nutriment. The shells of eggs are formed of this substance, and Dr Paris has ascertained the singular fact, that if the legs of a hen be broken, she will lay her eggs without shells until these are repaired, for which the lime is required. Hens will also lay their eggs without shells if there is a deficiency of lime in the yard in which they roam. It is a remarkable circumstance, that although the grain contains the phosphate, the straw contains the carbonate of lime. Carbon is, next to water, the principal support of vegetation. In the formation of soil, the earthy and crustaceous lichens are planted first: these die and form a bed for the seed of the mosses. In the fertilization of land, different operations are going on; the roots of the eryngo run five or six feet from the stem, they then die and form the vegetable matter or black mould which covers the barren rocks that cover the globe. Nature herself realizes the fable of the phœnix. Man, the lord of the earth, is subject to the same laws as all other created beings; furnishing after death food for others, as myriads have done before; and we trample on others alike in beauty and decay.—*British Farmer's Magazine.*

Art. III.—*On the Culture of Tulips.*

From the Horticultural Journal for June.

Information is generally valued in proportion to the happy choice of time at which it is given. No person cares much for medical hints when in robust health; but let only a little finger ache, and at once the physician's aid is welcome. We were ruminating on the necessity of writing an article suited to the present bright and balmy period of the year, at which nature delights us by her freshness and her beauty, when, happening to turn our eyes on our precious bed of tulips, we were struck with the notion that nothing could be more *apropos* than to give some information on the cultivation of this beautiful plant. An objection immediately occurred to us, which certainly had some weight, and that was, that the subject had been often treated before and that the best modes of proceeding in this country were pretty generally known. We determined then to

choose this moment for giving our readers an account of the French mode of cultivation; and as the tulip season is now in its prime, we conceive that the hints we lay before them will not be uninteresting or valueless. The most successful tulip-cultivator of Paris is M. Tripet, the florist of the Boulevart des Capucines. For seventysix years his father and himself have been distinguished for the extreme beauty of their collections, and for the general success of their modes of proceeding. Any information on tulip-rearing emanating from them is entitled to great attention; and we think we shall be rendering our horticulturists a service and a pleasure in laying before them M. Tripet's plans of cultivation. After having said a few words on the natural history of the plants, we shall proceed to consecrate a certain space to the specific character of the French florist's mode of cultivation.

The tulip appears to have been altogether unknown to the ancients, or at least, if mention is made of it, it is under names and characters not clearly descriptive of its appearance or qualities. Nothing is found in Pliny which can seem to refer to it; and if Gesner has supposed that it is the *Satyrion Erythronium* of the Greeks, or the *Anemone Limonia* of Theophrastus—if Bauhin has believed that he recognized it in the *Pythonia* of this last author—they have founded their conjectures on such vague grounds, that it is astonishing they had the hardihood to express their opinions with so much firmness. It was only in the sixteenth century that this superb plant began to attract the attention of the botanist. It had been cultivated before this in Europe, and was known under the name of Tulipan, on account of the resemblance it bore in shape to the head-dress of the Dalmatians. Conrad Gesner was the first who described this plant, and gave a figure of it to the public, both of which may be seen in the works of *Valerius Cordus*, which appeared in 1560. Whatever difference of opinion may have existed in the opinion of authors, as to the spot where the tulip first was grown—whether it comes from the confines of China, as some declare, where it was known by the name of *Lale;* or from India, whence, according to others, it was brought to Holland by the Portuguese—all agree that it owes its origin to Asia, and that it was for ages neglected and without name. The most probable supposition is, that it came to us from the provinces of Asia, next neighbor to Europe; in fact it was from Constantinople that Gesner brought over, in 1559, that

species which to this day bears his name. At a later period, in 1575, Jacques de l'Ecluse, a learned botanist, received from Viena, from Angierus Busbecque, the Ambassador in Turkey, some seeds of Tulips, which he carried into Belgium, and from which he obtained, six years after, flowers in great variety. The first which were cultivated in France came from Tournay, and the plant was soon spread over Europe,; indeed, when once known, how could it fail to excite enthusiasm? It became, from the moment of its advent, a source of rivality amongst flower-fanciers. The great question was, who could multiply the greatest number of varieties, and who should possess the finest flowers. In the seventeenth century the passion for tulips became, amongst the Belgian and Dutch florists, an absolute madness. An imaginary and excessive value was set on this plant, and it shortly became a regular object of commerce, and immense sums of money, or articles of great value, were often given in exchange for a single plant. Many thousand francs * have been often given for a single root, and the amount of this article of commerce, in 1637, rose to some millions of francs. Each day the tulip-mania became more overpowering, so much so that the Etats Generaux of Holland, convinced of the evil effects which might result from it, were obliged to interfere, and to pass laws of great severity against such transactions. At the period of this effervescence, properties of considerable value were given for a single flower, and a memorable monument of this outrageous folly is still exhibited at Lille in the *Tulip Brewery*, which it is said, though valued at 30,000 francs (1,200*l.*) was given by its proprietor for a single root. In the present day, there is no nation which pushes farther than the Turks their love for this beautiful plant. With this voluptuous people it has become, not only an object of gratification and luxury, but of religious worship. No festival at Constantinople is more sumptuous than the fete of tulips. It is at the period when their blowing is in all its beauty, that the Odalesques celebrate the fete in the seraglios with all the magnificence which the Orientals display on festive occasions. Disposed on stands placed in gardens, illuminated with thousands of torches, they are considered as almost worthy of adoration, and are, undoubtedly, the brightest ornament of the festival given in their honor.

In France, if the tulips do not obtain the extraordinary favor

* A thousand francs is about 20*l.*

which they enjoy in Holland and Belgium, they still can boast of numerous admirers, amongst whom may be found names of almost European notoriety. Each year the amateurs of this plant are becoming more numerous, and without meriting exactly the title of being tulip-mad, they may be justly praised for paying a legitimate attention to the cultivation of one of the greatest ornaments of the garden.

The tulip of the florists (*Tulipa Gesneriana*) is said to grow naturally in the mountains of Savoy, in the Morea, and in the neighborhood of Nice. It furnishes several varieties, of which the two principal are—first, bizarres—and second, tulips on a white ground. The first are remarkable for their exhibiting a yellow tinge, mingled with the other colors, to the exclusion of white. They were much esteemed about forty or fifty years ago, but they are looked on with a less favourable eye at present. Many persons, however cultivate them carefully still, to form a contrast, by their dark and strange shades of color, with the tulips on a white ground. The last named variety, on the contrary, displays not the slightest trace of yellow. Sometimes, indeed, at the moment of blowing, a few exhibit a pale shade of yellow, but the rays of the sun soon render them of a pure white. These are again sub-divided into two classes; the first, into tulips on a white ground, streaked with red, pink, crimson, &c.; and, secondly, tulips on a white ground, streaked with violet, amaranth, purple, lilac, &c. The tulips, commonly called Dutch, are the only ones now admitted into a choice collection, and of these there are between 600 and 800 good varieties.

In order to be admitted into this privileged class, certain conditions have been laid down by lovers of the flower, which the tulip should fulfil, and to fail in even a single regulation is sufficient to cause it to be rejected without hesitation or pity. These conditions are, first, regularity of form; secondly, harmony of proportions between the several parts; thirdly, firmness of the stalks and petals; and, fourthly, on each of these a union of at least three colors clearly defined.

With respect to the first condition, it is indispensable that, from the point of junction, the petals should bend themselves gracefully about a third part of their height, and then describe a straight line to the top, so as to form a sort of cup with a circular opening. The summit of the petals must not be in the slightest degree obtuse or jagged at the edge.

Referring to the second condition, the width of the flower ought to be about three-quarters of its height. The nicest harmony of proportions ought to reign, not only in the different parts of the corolla, but also between this latter and the stem. The bulk of this ought to be co-ordinate, both with its own height, and with the color of the corolla. Thus a flower, with breadth equal to its height, a long stem supporting a diminutive flower, or a fine corolla inserted into a weak, bending, or ridiculously short stem, are blemishes which the severe taste of good judges proscribe as fatal.

As to the third law, we may remark that strength and straightness of stem are indispensable. Here the petals must be well furnished, for they then resist more easily the power of the solar rays.

To satisfy the fourth condition, it is necessary that at least three colors should appear, harmoniously combined, so that the eye may love to rest on the union. They must be well defined, bright, and formed into regular designs—they must continue perfect up to the time of the flower going off, without running into each other from the effects of rain, or becoming weak and dried from the rays of the sun.

Tulips are obtained in two different manners—by seed and offsets. Experience proves that any variety of tulip is not re-produced by seed; and hence the amateurs always have resource to this mode of propagating the plant when they desire to obtain new varieties, which they denominate *Conquests*. In order to obtain the accomplishment of their wishes with more certainty, they take care not to employ any seed but that which comes from tulips having the bottom of the petals of a pure white, because the color of tulips proceeding from such seed develope themselves more rapidly than those produced from other seed. Tulip seed ought to be placed in the earth about the month of October. in ground well prepared for its reception. It should be protected from the frost by layers of leaves or mats. When carefully attended to, the plants will appear above ground towards the end of February. From the size of a pea the first year, the root will increase considerably in the two following springs. "At each of these periods, when the young leaves are faded," remarks M. Tripet, "I spread over my plants about an inch of earth, such as covered the seed originally. Convinced of the disadvantages, such as the loss of time and the occupation of a larger piece of ground, which are necessarily attendant on the taking up of the roots in the

second year, as is the usual practice, I never take up mine until after the third vegetation, and some later. I replant them at a depth of three inches, and two or three inches apart. Latterly, each year, I replant them in fresh ground; convinced, by experience, that they reach perfection sooner by changing the earth, particularly if it has been well manured and fertilized by having contained other plants. No matter what care may have been devoted to the seed, few perfect flowers are obtained in the first blow, which does not take place before the fifth year; in the following years, gradual amelioration of the colors takes place; and those which at first were vague and intermediate, finish at last, though in no fixed time, by assuming clear and distinct characteristics, until they reach all the perfection of which they are susceptible. Every tulip produced by seed, and as yet in a state of immaturity, is called a red (*baguette*), or a color (*couleur*),* and this state many continued for from two to fifteen years. From the period that the plant fulfils the prescribed conditions, it takes the name of *Conquest*, which it retains until some particular appellation is bestowed on it. From the very first blowing, all flowers whose corolla is ill made, or whose petals are thin, or whose stem is weak and bending, or which is tinged with yellow, are carefully removed. When the petals fall, the seed vessels should be broken off in order to give more strength and nourishment to the root. The inutility of the number of offsets which spring up about the young roots, causes them to be rejected during the years which precede the complete development of the colors. After the fourth year, the roots are treated as those of a collection already formed. The offsets of a tulip always re-produce a plant identical with that from which they draw their birth. The period of their coming into blow is always relative to their greater or less degree of development. It is seen from the first to the fourth year. They are planted in September, two, three, or four inches from each other, in proportion to their size, in ground prepared the month before. A vast number would perish from being dried up, if the putting them in the ground was postponed to November. In taking them up and replanting them, the same order should be observed as is followed in an established collection, in order to avoid all uncertainty in distinguishing the varieties. The utility of offsets is exceedingly great, as they serve to repair the losses which a severe season or unforseen acci-

* Synonymous with our breeder.

dents may cause to the old collection. In a tulip collection, the size of the roots is not a matter of indifference. It has been remarked that some of them, of huge size, produce corollas which are not properly proportioned. Most frequently they open and lose their value; whilst, if the roots had been of moderate size, they would have been perfect. Experience, however, can be considered the only safe guide in choosing the roots.

"It is not sufficient to unite the most beautiful tulips in the same place, as if they are thrown together by chance or without harmony. Not only must the heights agree, but also the colors. Art in this respect comes to the embellishment of Nature. In order to display as much as possible the richness and value of a fine collection, the following precautions ought to be attended to, as they will be found to facilitate the labor in a high degree.

"If, for instance, you have 500 tulip roots to plant, whose height and color you are perfectly acquainted with, you had better provide ten drawers, with fifty compartments in each. In these, place your roots, in some position where the air will have free access. You can place the drawers in a case, one over the other, with a space between to let in the air, and the whole had better be surrounded with a wire grating, to keep away rats and mice. As you know accurately the classification of your tulips, according to height and color, you can place the roots in proper order in the compartments. Its first series should hold those whose stem is highest, and which should be planted on the top of the bed: the other compartments should hold others less high, until all are filled. The colors ought to alternate as symmetrically as possible, so that the same color should never appear twice together, either longitudinally or transversely. It will result from this disposition of the plants, that, in looking at the bed obliquely, they will appear like a draught-board, with lines formed of an uninterrupted color. When you have properly arranged your roots in these compartments, the next step is to choose out a piece of ground, not moist, open, exposed to the south-east in preference to the south-west, and distant at least fifteen feet from any wall. It is best to give the bed a certain inclination, in order first to see the position of the flowers more easily, and next to facilitate the flowing off of rain or other moisture. Should you desire to make a second bed, it will be best to place it opposite and parallel to the other, with a walk of about four feet between them, and

with the lower part of one bed next to the lower part of the other. By this means the two beds will incline towards each other. In order to renew certainly the principles which are indispensable to bring tulips to perfection, the earth should be changed every two years; and in order to preserve to the plants, the second year, a vegetation as favorable as the first, about 250 pints of liquid manure, of the richest quality, should be poured over the ground in July or August; and in order that every particle of the earth should be impregnated with the essence of this rich addition, the whole should be dug up in a month after, and well mingled together. Should liquid manure not be procurable, the best substitute is manure from the cow's stable. When the earth is properly prepared thus, from the 10th to the 25th of November, the planting of the roots should take place. The bed should be carefully measured, and the roots entered at equal distances. About a wine-glass full of sand should be placed at the bottom of each hole, and the root ought to be covered with about a glass full more, as moisture passes through it quickly, and the roots are protected from insects. When the root is placed thus in its receptacle, it should be delicately covered by the hand with a small quantity of earth. Many persons strike down the root with their fingers, or with a planting stick, but this plan is proved by experience to be hurtful to the plant: the earth is rendered too compact by the pressure, so that the roots do not vegetate easily, and the plant is liable to be injured by moisture, which finds some difficulty in passing through. The borders of the bed should be lined with green sod, or, what is still better, with stone, which will keep out all insects and endure longer.

"Although less attention is paid to tulips when mixed up together, still, in order to obtain satisfactory flowers, it is necessary to turn up the ground several times before they are planted—not to leave them in it more than two years at a time, and not to replant them there but after an interval of from three to four years. A judgment may to a certain extent, be formed of the height of the stem from the size of the root; but this rule has numerous exceptions, though it is the only one which can direct us in the arrangement of tulips, mixed together, whose actual height is not ascertained.

"Tulips, from being exposed to the intemperature of the atmosphere, are subject to certain diseases, which it is of consequence to prevent. From the 14th of February to the 15th of April, they are

generally tormented by snow, hail, and cold rains. The cups formed by the young leaves, at the bottom of which the bud lies shut up, get filled with rain, and the result is, that the water remains there until it insinuates itself into the interior of the root, and either spoils it or impedes its development. Oftentimes a number of roots do not flower at all, or, if they do, the colors are dull and imperfect. To obviate this and many other inconveniences arising from exposure to the weather, it is necessary to shelter them with a covering of sail-cloth, which, by means of cords and pullies, can be extended or rolled up at will. The bed should be covered with this in unfavorable weather, and should be exposed to the rays of the sun, and to gentle rain when the buds shall have appeared from under the leaves. When the blow shall be complete, the covering must be held over the bed during rain, and from nine to four o'clock in case of sun. By this means the duration of the blow will be prolonged, and the beauties of a collection may be admired without any exposure to rain or sun. In the climate of Paris, the blow takes place usually in the first fortnight of May, and endures for about a month. I forgot to mention that, notwithstanding all the care bestowed on a bed, both in the planting and the growth of tulips, it always happens that some roots do not produce their flowers. In order to preserve the symmetry of the bed, which has been affected by their miscarriage, you should substitute other tulips, as like them as you can find in a reserved bed, which I strongly recommend you to establish apart from the other. For taking up the plants thus rendered useless, I employ an instrument, formed with three legs, like a triangle. These close when you please, and taking hold of the root, easily bring it to the surface. The tulips thus substituted, should be carefully marked to avoid confounding them with those whose places they occupied for the season. It is impossible to preserve the necessary order in a tulip collection, unless the roots are carefully entered in a catalogue, with their descriptions—each page might represent one of the drawers, of which I have already spoken. When the bloom is over, the seed vessels should be cut off, in order that the roots may profit by the sap, which would otherwise have been absorbed. The time for taking up the roots is easily ascertained. When the stems roll themselves round your fingers without breaking, then you may be sure that the time for taking up the roots has arrived. This takes place generally towards the end of June, and should be performed

in the same order as was adopted in putting them down. Too tender to be capable of resisting the action of the sun after their extraction from the ground, a great number of roots perish by being exposed to its rays during the short period taken up in raising them. This operation should not, therefore, be undertaken, unless under circumstances calculated to guard them from this danger. When all proper precautions have been taken, I proceed to raise the roots, and in this too much care cannot be given to avoid cutting them. Beware of placing the dibble under them; you will surely wound some, for they are not placed all at the same distance from the surface. First, gently uncover the ground at the sides of the plants, and then uncover the roots; after they have been deprived of their shoots, of their dry skins, and separated from the offsets, I place them in the cases destined to receive them. I then leave them to dry in the shade from morning to evening, for four or five days. During a month, I occasionally expose them to the air, in order to guarantee their perfect dryness. The roots which had been taken away from the bed, on account of their barrenness, ought now to be placed in their respective compartments, if they are sound, for at the succeeding years they may produce magnificent tulips."

Such are the remarks which M. Tripet has thought fit to make on the cultivation of tulips, and we trust they will not prove uninteresting to our readers.

ART. IV.—*Monography of the Genus Camellia, or an Essay on its Culture, Description and Classification;* Translated from the French, by HENRY A. S. DEARBORN.

(Continued from page 300.)

187. C. *Parksii vera.*—Leaves two and one half inches wide and three inches 4 lines long, almost flat, roundish-oval, slightly acuminate, delicately dentated; smooth, of a clear green, resembling a little those of C. *Speciosa vera*; bud large, oblong, depressed at the summit, scales blackish, full, a cherry-red, No. 6; petals of the circumference in two rows, broad, channelled, some recurved, compact, others erect and mixed with those of the interior, which are small, thick, forming an irregular sphere, as in C. *Milleri*, or the

Speciosa vera, of which this variety has the form and dimensions.—*Magnificent.*

188. C. *Præcellentissima.*—Leaves two inches wide and two inches and two lines long, elliptical, slightly acuminate, nerves very apparent, almost invisibly dentate, the summit reflex, as in the C. *Reeswesii*; bud oblong, scales of a yellowish green, flower three and a half inches in diameter and often more, double, cherry-red, No. 5, having a little of the tint of that of C. *Rivinii*; petals of the circumference six, oblong, turned back on the calyx distant from each other, in the form of a star and crenated at the summit; those of the interior numerous, short, equally arranged and forming a bowl, as in the ordinary *Warrata;* in the middle are seen the styles which are very long.—*Very beautiful.*

189. C. *Pictorum coccinea.*—Leaves large, horizontal, and hollowed into a gutter, of a deep green, but very little dentated; bud large, scales greenish; flower more than three inches in diameter and often even four, full, regular, of a cherry color, No. 4; petal broad, handsomely detached, and gracefully imbricated.—*Superb.*

190. C. *Platipetala.*—We possess two Camellias under this name; the first is very much like C. Imperialis, both in foliage and flower; the second has leaves like those of C. *Speciosa vera*, or of C. *Rawsiana.* The flower which is not so dark as that of the two last varieties, has the same form and size; but the bud before it opens, has a white point at the summit.—*Superb.*

191. C. *Rubra simplex*, or *japonica.*—The type, from which nearly all our varieties were derived. See its description at the commencement of the monography.

192. C. *Rubra plena.*—This shrub requires pruning, to give it a graceful port and cause it to flower abundantly; branches greyish, numerous, having a tendency to extend themselves far, leaves ovate-lanceolate, or rounded, curled, reclined, and are often undulated in various directions, of a deep green; bud large, oblong, obtuse, scales blackish; flower three inches in diameter, full, of a cherry-red No. 5; petals of the circumference broad, recurved; those of the interior, swollen, narrow, elongate, numerous, rumpled, and irregularly arranged; bears seed.

There exists a sub-variety of this Camellia known in the commerce of flowers under the name of *Rubra maxima;* it is a more rustic shrub, its flower longer and its port more regular; but both

of these varieties, retain their buds with difficulty. Still if they are kept in a continued temperate atmosphere, from the last of autumn to the moment of floresence, they flower very well in December.—*Superb.*

193. C. *Rex Bataviæ.*—Leaves two inches wide and three inches two lines long, a little recurved at the extremity, nerves very distinct, often spotted with pale yellow; bud large, scales greenish; flower three inches and 3 lines in diameter, double, regular, cherry color, No. 6, becoming darker in proportion as the flower develops; petals not numerous, broad, rounded at the summit, hollowed into gutters and slightly recurved backwards; some of those in the centre rumpled and dislocated; a few stamens in the centre, with very brilliant yellow anthers.—*Very beautiful.*

194. C. *Rossi.*—Leaves large, ovate-lanceolate, curled, recurved towards the stock, very dentate, of a dull green; bud with green scales; flower double, three inches in diameter, of a fine cherry-red No. 4, sometimes spotted.—*Very beautiful.*

195. C. *Rossiana superba.*—Branches vigorous and elongated; leaves ample, rather deeply dentated, nerves very apparent; flower of a medium size, of a deep cherry-red, No. 4, semi-double.—*Handsome.*

196. C. *Roscii* or *Rawsiana.*—See the next.

197. C. *Rawsiana* or *Roscii.*—Leaves two and a half inches wide and three and a half long, oblong, horizontal, a little rolled, recurved at the summit, very finely dentated of a clear green; bud large, scales blackish; flower three inches in diameter, full, deep cherry-red, No. 4, form convex and rumpled; petals of the circumference not numerous, but broad, distorted and thick; those of the interior very numerous, pretty large, compact, unequal, reclined, or erect, some of them marked with a white spot.—*Superb.*

198. C. *Sanguinea.*—Leaves of a medium size, form and color of C. *Aitonia;* bud oblong, pointed, scales greenish; flower 4 inches in diameter, single, cherry-red, No. 5, sometimes blood color; stamens numerous, anthers small, styles long, surpassing, by a third, the length of the stamens; bears seed.—*Beautiful.*

199. C. *Staminea plena.*—We have compared during several years in succession, this plant with C. *Rawsiana* and *Roscii* and have discovered so little difference between these varieties that we think that they constitute but one.

200. C. *Superbissima.* (Sacc.)—Leaves two inches wide and three long; bud obtuse, scales greenish; flower of the largest dimensions double, of a cherry-red, No. 4, often shaded with rose; petals irregularly arranged, but with grace. This variety has been obtained from the seed by Mr Sacco of Milan. He states that the mother plant has produced flowers seven and a half inches in diameter.

201. C. *Sparmaniana.*—Leaves two and a half inches wide and three and two lines long, roundish oval, very slightly acuminated, with very distinct nerves, of a green like that of C. *Wilbanksiana;* bud large, with greenish scales; flower three inches in diameter, double, cherry-red, No. 6, exterior petals round, recurved, the others erect dispersed, with the form and dimensions of those of the flower of C. *Rex Bataviæ.—Very beautiful.*

202. C. *Splendens vera.*—We possess two varieties of C. *Splendens:* the first has a single flower, and is not remarkable; the second, whose leaves very much resemble those of C. *Magniflora plena* has a superb appearance; its flowers very large, full, regular, deep cherry-red, No. 5; petals, rounded, imbricated, some of those in the centre contorted, and formed into two separate hearts.—*Superb.*

203. C. *Speciosa vera.*—Leaves two and a half inches wide and three and a half long, rounded, slightly acuminated, fine teeth, flat, of a clear green, glossy, very finely veined; bud with blackish scales at the base and green at the summit; flower large, beautiful, full, of a deep cherry-red; No. 5, petals of the exterior in two or three rows large, regular, recurved upon the calyx, those of the centre irregular, multiplied, close, undulate, rumpled, having a little white spot on the superior part; corolla three inches in diameter.—*Superb.*

204. C. *Tamponeana.* (Berb.)—Leaves close, oval, a little lanceolate, two inches three lines wide and three inches four lines long, with apparent nerves, of a dull green; bud large, oblong, with apple-green scales; flower three and a half inches in diameter, cherry red, No. 5, approaching amaranth, double, well formed; petals rounded in the circumference, regularly recurved upon the calyx, the second row gracefuly elevated; those of the centre smaller, rumpled, sometimes marked with white spots: a few sterile stamens in the centre; flowers abundantly and easily obtained from the seed by Mr Tamponet of Paris.

205. C. *Warrata* or *Anemonæ flora.*—Leaves two inches wide

and three long, obtuse-oval, of a deep and brilliant green, flat, thick, dispersed, reflex ; bud of medium size, elongate, with scales always blackish ; flower large, double, of a deep cherry-red, No. 6, approaching a purple ; petals of the circumference broad, nearly rounded, in number 6 or 7, those of the interior numerous, small, arranged with admirable regularity in the form of a depressed bowl. This variety flowers with facility in warm climates ; but in Paris, it is sufficiently inconstant in this respect. When the buds exhibit at their summits a white spot, it is an indication of a certain and easy florescence. This variety has produced very beautiful sub-varieties ; they are covered with fruit in Italy.

SECOND GAMUT.

UNICOLORS.

CARNATION COLORS.

Dominant color, rose, lake and cinnabar, as in the numbers 1, and 2 of the colored table.

206. C. *Alba lutescens*, or *Roseoflorescens*.—Leaves oblong, reflex, and rolled downwards towards the summit, regularly dentated, almost flat, of the form and color of those of C. *Wilbanksiana ;* bud obtuse-oval, with yellowish scales, flower three and a half inches in diameter, of a dingy white, yellowish, carnation, No. 2, full, totally deprived of sexual organs ; petals broad, arranged in several rows. —*Very beautiful*..

207. C. *Carnea*.—Leaves oval, elongate, two and a half inches wide, and four inches three lines long, dispersed, very much veined and dentated, of a yellowish green ; bud obtuse, large, with greenish scales ; flower three inches broad, full, flesh-color approaching a pale yellow, as in No. 3.—*Superb*.

208. C. *Incarnata*.—Leaves two inches three lines wide and four long, lanceolate, strongly veined and deeply dentated, of a pale green, flower three and a half inches in diameter, full, arranged in a star, of a carnation color, pale on opening, and soon after becoming of a dingy yellow, a shade above No. 3 ; petals imbricated, tufted, slightly acuminated, sometimes crenated at the summit, gently leaning on each other, and forming a kind of star.—*Magnificent*.

209. C. *Kewblurk*.—It is a sub-variety of the preceding, flowers, not so regular and not star-form.

SECOND GAMUT.

UNICOLORS.

ORANGE-RED MORE OR LESS DEEP.

Dominant color, lake mixed with cinnabar-red as in Nos. 1. 2. 3. 4. 5. 6. 7. and 8, in the second gamut of the colored table.

210. C. *Anemonæ flora Warrata sinensis.*—Leaves two inches wide and two and eight lines long, oval, obtuse, almost flat, the old roundish-oval, and the new lanceolate, both very finely dentate and with reddish margins, of a green very nearly like that of the orange; bud obtuse, pretty large, with green scales; flower three and a half inches in diameter; full, deep orange-red, No. 6, sometimes shaded above C. *Reeveseii*, with the heart depressed; petals of the circumference in three rows, broad, rounded, those of the centre, narrow, short, mixed with others longer and broader, unequal, and marked in the centre, with one or two white spots. This flower much resembles that of C. *Parksii.*—*Superb.*

211. C. *Atrorubens.*—A very vigorous shrub; leaves large, ovate-lanceolate, attenuated at the superior extremity, very dentate, of a deep green, coriaceous bud of ordinary size with blackish scales; flower three inches in diameter, full, irregular, of a deep orange red, No. 6; exterior petals in three rows, regularly placed, broad, imbricated, recurved and conspicuously displayed; those of the interior smaller, short, elevated, distorted, rumpled and separated from the first, forming a depressed centre; blooms with difficulty.—*Superb.*

212. C. *Augusta rubra aurantiaca.*—Leaves two inches wide and three inches and more long, very much dentated, ovate-lanceolate, acuminated, of a dull green; bud oblong, a little pointed; flower three and a half inches in diameter, double, deep orange-red, No. 8; color, form and dimensions like those of C. *Corallina.*—*Superb.*

213. C. *China.* (Tat.) or *Rives-nova.*—The branches, leaves and wood resemble those of C. *Rubra plena*, of which it is a sub-variety; bud large, oval, with apple-green scales; flower three inches in diameter, full, of a deep orange-red, No. 7; petals elevated, numerous, compact, and arranged as in C. *Atrorubens*, but of a more open globular form.—*Superb.*

214. C. *China large.*—Leaves long, narrow, reflex, of a green, like that of C. *Rubra plena*; flower about three inches in diameter,

full, of the form of the preceding and of a very similar color; petals of the exterior imbricated, entire, rounded at the summit, the borders recurved; a few small petals in the centre, unequal, slightly spotted with white.—*Superb.*

215. C. *Conspicua.*—A shrub which has but little grace in its port; leaves two inches two lines wide and four long, lanceolate oblong somewhat acuminate, undulating, close, reflex, deeply dentated with long petioles of an ordinary green; bud oblong, with green calycinal scales; flower three and a half inches in diameter, regular, full, of a beautiful orange-red, No. 8, approaching carmine; petals of the circumference, arranged in several rows, broad, handsomely imbricated and deeply crenated at the summit; some of those in the centre, long, twisted, and reclining laterally on the ovary.—*Superb.*

216. C. *Chandlerii.* (Chand.)—A vigorous shrub; leaves thick, three inches wide and four long, roundish-oval, horizontal, slightly acuminated, the points bent laterally, very much dentated, veins apparent, of an obscure green; bud large, pointed-oval, with scales part blackish and part yellowish; flower four inches in diameter, rose-form, double, depressed, of a superb deep orange-red, No. 8; petals of the circumference mucronated, imbricated, rounded, regularly arranged, crenated, those of the centre smaller, erect, elongate, folded a little in a cornet form, sometimes spotted with white.—*Magnificent.*

217. C. *Cactiflora.*—Leaves 2 inches and 2 lines wide, and 3 inches 5 lines long, oval, oblong, lanceolate, very acuminate, distant from each other, deeply dentated, strongly nerved; bud oblong, with yellowish scales; flower double of an orange red, No. 8; petals handsomely imbricated, not numerous, broad and regularly arranged; those of the centre, swollen, distorted and intermixed with stamens —*Very handsome.*

218. *Derbiana Vera.*—Leaves 2 inches 3 lines wide and 3 1-2 inches long, roundish-oval, very acuminate, nerves very distinct, horizontal, finely dentated, surface often spotted with yellow, of a very beautiful green; bud very large, oblong, pointed with apple-green scales; flower 4 inches in diameter, and often more, double, deep orange-red, No. 7, of a brightness difficult to designate, and producing a magnificent effect; the petals of the circumference arranged in several rows, broad, a little spoon-shaped, and crenated

at the summit; those of the interior, narrow, rumpled, of a rose tint; a few sterile stamens in the centre.—*Magnificent.* There is another *Derbiana*, known in the flower market which is not in the least distinguished.

219. C. *Eximia Vera.*—Leaves ovate, lanceolate, large, acuminate, very dentate, horizontal, of an ordinary green; bud large, flattened at the summit, scales calycinal, yellowish; flower 3 1-2 inches in diameter, very full, of a deep orange color, No. 8; sometimes the petals are worked with a white line; they are arranged in six or seven rows, regularly imbricated, rounded, crenated at the summit, forming a beautiful rose, as in the C. *Blanc Double.* [Double white.]—*Magnificent.* There is known in the flower market an other Camellia under this name, produced by Mr Knight; its flower is semi-double and but little esteemed.

220. *Incomparabilis.*—Leaves 2 inches 9 lines wide and 4 inches long, roundish-oval, some of them laceolate, acuminate, with conspicuous nerves, of a very brilliant green; bud oblong, large, pointed, with blackish scales; flower large, 4 1-2 inches in diameter, single, deep orange-red, No. 7; eight broad petals, crenated at the summit, many erect and compact stamens. There exist, another Camellia under this name, whose flower is large, full, and like that of C. *Conspicua.*—*Superb.*

221. C. *Ignescens.*—Shrub vigorous; leaves rather large with small nerves, but well delineated, sprinkled with spots of clear green, upon a more sombre ground; flower of medium size, semi-double, deep orange-red, No. 6, petals flat, imbricated in three rows; many stamens.—*Passable.*

222. C. *Lauchmani.*—A vigorous shrub and of a graceful port; foliage of a shining green; flower large, single, of a deep orange-red, No. 6, velvety; petals ample, erect, bilobed and elongate; stamens short, some of them petaloids; styles very long.—*Passable.*

223. C. *Magniflora plena.*—Leaves large, some rounded and others oval, subcordiform, thick, stiff, glossy, reflex, numerous, of an obscure green; bud oblong, rather large with greenish scales: flowers very double, regular, 3 1-2 inches in diameter, of a deep cherry-red, No. 5, approaching a poppy color; exterior petals imbricated in three rows, very broad, crenated at the summit, those of the centre swollen, roundish, regularly arranged; flowers easily and for a long time.—*Superb.*

224. C. *Punicæflora.*—Handsome foliage; flower 3 inches in diameter, semi-double, irregular deep orange-red, No. 4, inclined to a pomegranate color.—*Handsome.*

225. C. *Parviflora.*—Leaves near, lanceolate, oblong, very acuminate, 2 inches broad and 3 inches 4 lines long, almost flat, finely and irregularly dentated, and of an obscure green; bud large, oblong with blackish scales at the base, and yellowish at the summit; flower 3 inches in diameter, full, regular, deep orange-red, No. 7; petals handsomely imbricated, very numerous, with a depressed heart, containing 2 or 3 sterile stamens.—*Superb.*

226. C. *Palmerii purple Warrata.*—Branches short; leaves flat, rounded, very finely dentated, nerves not very apparent; flower large, full, deep orange-red, No. 8.—*Superb.*

227. C. *Reewesii vera.*—Port not very graceful; leaves few and dispersed, 2 inches 2 lines wide and 4 long, curled, ovate, lanceolate, the point recurved, of a deep green; bud large, pyramidal, with greenish scales; flower 3 1-2 inches in diameter, double, deep orange-red, No. 7; petals of the circumference in two rows, an inch broad and 1 1-2 long, hollowed in the form of a gutter, very much crenated at the summit; those of the centre elongate, narrow, slit into narrow strips and folded at the summit in the form of a dome and leaving a void in the interior, where appear a few stamens.—*Superb.*

228. C. *Renira.*—Leaves 12 lines wide and 2 1-2 inches long, lanceolate, oblong, finely dentated, strongly nerved, of a pale green; flower 3 inches in diameter, double, deep orange-red, No. 7; petals of the circumference very broad, oblong, crenated at the summit, those of the centre not numerous, long, narrow, folded over each other, and resembling the interior of an anemone.—*Superb.*

229. *Rivinii.*—Leaves 1 inch 10 lines broad and 3 inches 6 lines long, ovate, elongate, acuminated, nerved and dentated, horizontal; petioles 10 lines long, of a pale red, which is often extended for a third of the length of the main nerve; bud elongate, pyramidal, with green scales; flower 3 1-2 inches in diameter, of a beautiful deep orange-red, No. 7, very double; petals of the circumference in several rows, oblong, a little spatulate, or spoon-form, crenated at the summit, and arranged in rows; those of the interior, very numerous, erect, and forming a dome, as in C. *Reewesii*; of the same color and same form.—*Superb.*

FIRST GAMUT.

BICOLORS.

FIRST DIVISION.

GROUND white striped or spotted with rose, as in No. 1. of the first gamut of the colored table.

230. C. *Banksii.*—It is the *Camellia Imperialis* under the name of C. *Banksii*, perhaps a little more striped with red, which appears to us to depend on the vigor of the plant.

231. C. *Dianthiflora striata plena.*—Leaves 2 inches wide and 3 inches 2 lines long, ovate-oblong, acuminated, horizontal, very dentate, a little recurved at their summits, very distinct nerves and of rather a deep green; flower large, very double, of a pretty form, resembling very much that of *Camellia Imperialis.*

232. C. *Delicatissima.*—Leaves 2 inches wide and 3 1-2 long, ovate oblong, attenuated at their two extremities, those of the superior having rather long points; flower 3 1-2 inches in diameter, double, rose-form; heart very large, being 2 inches 5 lines in diameter, petals curled, sinuous, irregular, those of the periphery, larger, being an inch and more broad, entire or sinuous, all white, striped with rose, stripes both large and small, and pretty numerous.—*Superb.*

233. C. *Elegantissima.*—Leaves large, ovate-lanceolate, strongly nerved, of a deep green; flower double, 3 inches in diameter, ground white, striped with rose.—*Superb.*

234. C. *Gloria Mundi.*—There are, under this name, two different Camellias; the first has leaves 2 inches 9 lines broad, and 4 inches long; form, color, and dimensions of C. *Imperialis*, when this is very vigorous; bud large, obtuse, with greenish scales; flower of a white ground, striped with rose, as in the Camellia above named, from which it differs but very little; only the heart is slightly yellowish. The second has leaves very nearly like those of C. *Grandiflora simplex*; its flower is double, cherry-red, No. 2, and very regular.

235. C. *Imperialis.*—Leaves 2 1-2 inches wide and 3 1-2 long, roundish-oval, very acuminate, rolled backward at the summit, horizontal, very much dentated, with strong nerves, of a clear green; bud egg-shaped, large, with greenish scales; flower three and a half inches in diameter, full, irregular, with a white ground slightly

tinted or striped with rose; petals of the circumference broad, flat, recurved, crenate at the summit; those of the interior narrow, distorted erect, united and forming an arched centre almost hemispherical, rumpled, resembling a Flemish pink, with a white ground striped with red. Petals entirely rose-colored are sometimes seen in this flower.—*Magnificent.*

236. C. *Imbricata alba.*—Leaves three inches wide and from four to five long, dispersed, oval, elliptical, attenuated, at the two extremities, handsomely nerved, point recurved downward; flower three and a half inches in diameter, spheroidal, very full and forming a regular rose, the petals of which gradually diminish in size towards the centre, and are mutually imbricated from the centre to the circumference, each has a free border, a little sinuous, entire, two lines broad in the centre and augmenting to twentyfive lines in the periphery; they are white with distinct red or white stripes. —*Magnificent.*

237. C. *Punctata simplex*, or

238. C. *Single striped.*— Leaves two and a half inches wide and three long; form, color and dimensions of C. *simplex alba*;— flower of medium size, single, white, striped or dotted with rose.— *Insignificant.*

239. C. *Pictanata.*—Leaves three and a half inches wide and four long, near, acuminated at the summit and rounded at the base, oval, elliptical, the point bent downward, shining; flower three and a half inches in diameter, spherical, very double; petals of the centre and also those of the circumference curled, sinuous, irregular, folded; those of the periphery entire, of a pure white, and occasionally some of them striped with red; a few stamens.—*Superb.*

240. C. *Regina Galliarum*, or

241. C. *Eclipse.*—Leaves and bud like those of C. *Imperialis*; flower three and a half inches in diameter, full, a little arched in the centre, ground white slightly spotted with rose; petals of the exterior recurved symmetrically, twisted and striped, as in the flower of C. *Imperialis*; this has heretofore been called the *Eclipse*; but the Messrs. Bowman have named it C. *Regina Galliarum.*—*Superb.*

242. C. *Sabina.*—Leaves of a medium size, roundish-oval, slightly acuminated, bud pyramidal, with green scales; flower large, full, and of a very pale or whitish carnation color.—*Superb.*

243. C. *Stryphosa.* (Rap.) Leaves of a medium size, ovate-lan-

ceolate, slightly acuminated, much dentated, of a beautiful green; flower double, large, ground white, striped or more properly dotted with rose and red; handsomely formed.—*Superb.*

244. C. *Spoffortiana.*—A vigorous shrub and of an elegant port; leaves oval, horizontal, nerves salient, of a deep green, teeth distant and very acute; buds very large, with greenish scales; flower three inches in diameter, full, of a milk-white with a few red stripes.—*Superb.*

245. C. *Victoria antwerpiensis.*—Leaves two inches three lines wide and four long, some roundish-oval, others lanceolate, acuminate, of a dull green; flower very double, three inches in diameter, exhibiting some rose stripes on a white ground.—*Superb.*

FIRST GAMUT.

BICOLORS.

SECOND DIVISION.

Ground rose striped or spotted with cherry-red, as in No. 1, of the colored table.

246. C. *Colvillii vera.*—Shrub very vigorous; leaves three inches three lines wide and four inches seven lines long, broad, roundish-oval, a little acuminated, much dentated, with very salient nerves, thick, horizontal, slightly recurved downward, of a very deep green; bud very large, with scales, blackish on the border and yellowish in the middle; flower three inches and ten lines and often more in diameter; ground color clear rose, one shade darker than No. 1, and striped with carmine-red; form and disposition of the petals as in the flower of C. *Punctata plena*, but of greater dimensions.—*Magnificent.*

247. C. *Gray Venus.*

248. C. *Gray.*

249. C. *Eclipse.*

250. C. *Splendida.*

251. C. *Venusta.*

252. C. *Punctata plena.*—All these *Camellias* are sub-varieties, which resemble each other so much, that it is better to consider them as a single one. See below C. *Punctata plena.* All these double denominations came to us from beyond the sea.

253. C. *Punctata plena.*—Shrub vigorous and of an elegant port; leaves oval, almost round, two and a half inches wide and three and

a half long, with very prominent nerves, much dentated, of a deep green; bud large, depressed at the summit, with apple-green scales; flower three inches in diameter, full, ground rose, marked with cherry-red lines, No. 1; petals of the circumference broad, crenate at the summit, and convex; those of the centre small, elongate and erect; floral form of C. *Imperialis*, but the mixture of its colors renders it more apparent. This Camellia sometimes produces flowers, entirely red or rose, and without stripes. We think that C. Preston Eclipse is identical with this, and that this accidental variety has been established by grafting.—*Magnificent.*

254. C. *Punctata major.*—Shrub vigorous; leaves broad, oval, nearly four inches long and three and a half wide, of a glossy green, finely veined, dentate, point bent downwards; flower four inches in diameter, considerably double, of a beautiful clear rose, No. 2, finely striped with blood-red, and spotted with white; corolla rose-form.—*Magnificent.*

255. C. *Rosa mundi.*

256. C. *Splendidi id.*

257. C. *Venusta id.*—See

258. C. *Punctata plena.*

FIRST GAMUT.

BICOLORS.

THIRD DIVISION.

Ground clear or deep cherry, spotted with white.

259. C *Aglæ.*—Leaves two inches nine lines wide and three and a half long, reflex, roundish-oval, acuminate; buds with green scales; flower three inches in diameter, double, ground cherry, No. 2, often of that color only and sometimes spotted with white; stamens mixed with a few interior petals, flowers easily and abundantly.—*Very handsome.*

260. C. *Adonidea.*—Leaves very nearly like those of the *Preston Eclipse;* flower large, very double, of a cherry-red, No. 1, striped with white, form of a Flemish pink. We think that this dahlia is a sub-variety of *Preston Eclipse*, modified by culture.—*Superb.*

261. C. *Cariophyllæ flora*, or

262. C. *Dianthiflora.*—Shrub very vigorous, of not a very graceful port; branches expanded, recurved; leaves of ordinary size, a

little inclined on the branches, elongate-oval, strongly veined; bud with blackish scales, elongate, acute; flower broad, sometimes double and often single, cherry-red, No. 2; petals of the circumference subcordiform, broad, dispersed, in number 7; those of the centre swollen, erect, numerous, striated with white, and forming by their union an arched centre. The late flowers are single and the centre is full of stamens. This variety bears seed and produces superb sub-varieties.

263. C. *Coronata Rosa.*—Leaves two and a half inches wide, and four long, roundish-oval, a little acuminate, strongly nerved, deeply dentated, of the same green as that of C. *Imperialis*; flower large, double, well formed, deep cherry, No. 1; exterior petals broad, handsomely arranged, gracefully displayed, striped or spotted with white; those of the interior, smaller, contorted, and also striped or spotted with white.—*Superb.*

264. C. *Cardinalis*, or

265. C. *Moencii.*—Leaves pretty large, near, a little curled, borders very dentate, nerves very apparent, surface uneven; bud oblong, with yellowish green scales; flower semi-double, rather large, deep cherry, No. 1, with some shades clearer than that of C. *Variegata plena*; petals of the centre intermixed with fertile stamens, of different lengths; calyx divided into four segments, as in C. *Sophiana*, the styles surmount the bud before it expands.—*Handsome.*

266. C. *Douklari.*—Leaves two inches broad, and four long, flat, near, ovate-oblong, attenuated at the two extremities, and the superior reflex, of a shining apple-green regularly dentated; bud calyx in fine green divisions, papyraceous, reddish at the base, five lines broad and eight long; flower from three to four inches in diameter; petals about 20, an inch broad, and nearly two long, ovate-oblong, obtuse, entire, cherry-red, No. 1, variegated and sprinkled with white; the heart of the corolla is composed of from four to six curled petals, between which are perceived several fertile stamens, with others in a petaloid state.—*Magnificent.*

267. C. *Fioniana.*—Leaves small, lanceolate; flower small, red, splashed with white, double; it is an odd variety, derived from C. *Variegata*, which has been established by grafting.—*Pretty.*

268. C. *Melinetti.*—Leaves two inches wide, and three and three lines long, roundish oval, slightly acuminated, deeply dentated,

strongly nerved, recurved in a shell-form, forming a parasol in the manner of those of C. *Colvillii vera;* flower large, full, of a beautiful cherry-red, No. 3; petals bordered and striped with pure white. —*Superb.*

269. C. *Marmorata.*—A shrub with yellowish branches, leaves roundish-oval, deeply dentate; bud small, rounded at the base, a little pointed at the summit; flower semi-double, cherry-red, No. 1, a little spotted with white, or rather, marbled with white.—*Passable.*

270. C. *Phillippe* I. or

271. C. *Mexicana.* (Sac.)—Leaves of a medium size, oval, a little lanceolate, of a deep green; bud pointed-oval; flower medium double, cherry-red, No. 2, spotted with white; it is very like the flower of C. *Fioniana,* a little more spotted with white.—*Passable.*

272. C. *Variegata plena.*—Shrub very vigorous; leaves, some rounded and others lanceolate, flat or revolute, very much dentated, with strong nerves, of a very deep green; this rustic shrub promptly attains a considerable elevation, in all climates, and flowers easily and in a short time; it sometimes bears seeds, especially when in the open ground. Very beautiful sub-varieties have been obtained from its seed; bud large, oblong, a little acuminate at the summit, with scales always green; flower three and a half inches in diameter, sometimes even four, cherry-red, No. 3, irregularly spotted with white; petals ample, recurved, some crenate and others entire at the summit; some of those in the centre erect and intermixed with stamens. In winter the flower is spotted, in the spring it is almost entirely red.—*Magnificent.*

273. C. *Variegata monstruosa.*—Leaves very nearly like those of C. *Crassinervia;* bud large, obtuse, with greenish scales; flower large double, of a cherry-red, No. 2, spotted with white.—*Beautiful.*

274. C. *Versicolor.*—We have in our collection, several Camellias under this name; that here described is a plant which has large leaves, roundish-oval, attenuated at the summit, near, of a deep green, and of the kind of those of C. *Chandlerii;* bud oval, scales blackish; flower pretty large, double, of a deep orange-red, No. 4. with roundish petals dotted with white in the middle; they much resemble those of C. *Deana Superba.* The other *Versicolor,* has a flower very like that of C. *Variegata plena,* the white is a little more regular; the leaves are reflex and have the point recurved downwards.

Art. V.—*Remarks on the Crested Amaranth, or Cock's Comb.* Celosia Cristata.

The flowers of this plant are so numerous and small, and so closely set together on an irregular and flatish surface, that it frequently looks more like a piece of rich velvet than a vegetable substance. We do not find it placed in floral language, and have therefore given it as the emblem of singularity. It is a native of several parts of Asia, and is common in Persia, China, and Japan, where we are informed it is grown to such perfection, that the crests or heads of flowers are frequently a foot in length and breadth. The most perfect plant of this kind grown in England, was grown by Thomas Andrew Knight, Esq., and sent by him to the Horticultural Society of London in October, 1820 ; a drawing of this extraordinary flower is now to be seen in the library of that institution ; the flower of this extraordinary plant measured seven inches in height, and eighteen inches in width, it was thick and full, and of a most intense purplish red color.

In producing this singular plant, the first object was to retard the protrusion of the flower stalk, so as to give it as much strength as possible. The compost employed was of the most nutritive and stimulating kind consisting of one part of unfermented horse-dung, fresh from the stable, and without litter, one part of the burnt turf, one part of decayed leaves, and two parts of green turf, the latter being in lumps of about an inch in diameter, in order to keep the moss hollow, that the water might have free liberty to escape, and the air to enter. There are varieties of cock's combs with yellow, red, purple, and white corollas.

Erratum.—1st page of this number, 5th line from bottom, for "fire" read fir.

QUINCY MARKET.

[Reported for the Horticultural Register.]

APPLES, common, for cooking,	bushel,	75 to 1 00.
Porter,	do.	1 25.
Fine sweet, for baking,	do.	1 00 to 1 25.
BEANS, Saba,	quart,	20.
common sorts,	do.	12.
BROCCOLI,	head,	12 to 25.
BEETS,	bushel,	75.
CABBAGE,	dozen,	50 to 1 00.
CAULIFLOWER,	head,	12 to 25.
CARROTS,	bushel,	50 to 75.
CORN, sweet,	dozen,	12.
CRANBERRIES,	bushel,	1 00.
Eastport,	do.	3 00.
CUCUMBERS, for pickles,	hundred,	17 to 20.
CELERY,	root,	6 to 8.
GRAPES, Sweetwater,	pound,	25.
Black Hamburgh,	do.	62 to 75.
HORSE RADISH,	do.	8 to 10.
MELONS,	each,	12 to 25.
NECTARINES,	dozen,	50.
ONIONS,	bushel,	1 00.
PARSNIPS,	do.	75.
PARSLEY,	half peck,	25.
PEARS, good sorts,	bushel,	2 00 to 3 00.
St. Michael,	dozen,	25 to 37.
Bartlett,	do.	37 to 50.
PEACHES,	bushel,	2 00 to 3 00.
fine varieties, extra size,	dozen,	25 to 50.
PLUMS, common,	quart,	12.
extra varieties,	do.	25 to 37.
POTATOES,	bushel,	67 to 75.
PEPPERS,	pound,	5.
RUTA BAGA,	bushel,	50.
SQUASHES, Canada crook neck,	pound,	1 to 1 1-2.
Marrow,	do.	1 1-2.
TOMATOES,	peck,	25.
TURNIPS,	bushel,	50.

Boston, September 12, 1838.